

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
UJ		US-6,468,759	10-22-2002	CHARYCH	
UJ		US- 6,308,598	10-23-2001	JONAS	
UJ		US- 6,284,183	09-04-2001	STOWELL	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ³
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
UJ		WO9836263	08-20-1998	Stevens et al.		

Examiner
Signature

/Unsu Jung/

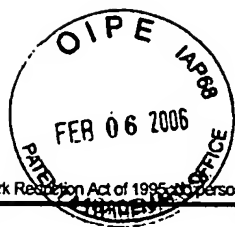
Date
Considered

08/23/2006

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08b(08-03)

Approved for use through 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 3

Complete if Known

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

NON PATENT LITERATURE DOCUMENTS

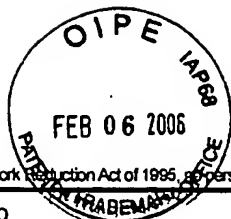
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
UJ	1.	GILL, I., et al., "Bio-Doped Nanocomposite Polymers: Sol-Gel Bioencapsulates", Chemistry of Materials, American Chemical Society, 2001, pp. 3404-3421, Vol. 13, No. 10.	
	2.	BESANGER, T., et al., "Characterization of Fluorescent Phospholipids Liposomes Entrapped in Sol-Gel Derived Silica", J. Phys. Chem. B., 2002, pp. 10535-10542, Vol. 106, No. 41. (Abstract only)	
	3.	GILL, I., et al., "Encapsulation of Biologicals Within Silicate, Siloxane, and Hybrid Sol-Gel Polymers: An efficient and generic approach", Journal of the American Chemical Society, 1998 pp. 8587-8598, Vol. 120.	
	4.	WEETALL, H., et al., "Bacteriorhodopsin Immobilized in Sol-Gel Glass", Biochimica et Biophysica Acta, 1993, pp. 211-213, Vol. 1142, No. 1.	
	5.	BESANGER, T., et al., "Ion Sensing and Inhibition Studies Using the Transmembrane Ion Channel Peptide Gramicidin A Entrapped in Sol-Gel-Derived Silica", Anal. Chem., 2003, pp. 1094-1101, Vol. 75.	
	6.	BESANGER, T., et al., "Entrapment of Highly Active Membrane-Bound Receptors in Macroporous Sol-Gel Derived Silica", Anal. Chem., 2004, pp. 6470-6475, Vol. 76.	
	7.	BRENNAN, J.D., "Optimizing Sol-Gel Entrapped Proteins for Bioanalytical Applications", Abstract, CSC Meeting, May 2004, London, Ontario.	
	8.	CRUZ-AGUADO, J., et al., "Sugar-Functionalized Silica Provides Enhanced Activity and Stability to Entrapped Enzymes", Abstract, CSC Meeting, May 2004, London, Ontario.	
	9.	RUPCICH, N., et al., "Development of DNA Aptamer-Microarrays Based Sol-Gel Derived Materials", Abstract, CSC Meeting, May 2004, London, Ontario.	
	10.	BESANGER, T.R., et al., "Entrapment of Highly Active Nicotinic Acetylcholine Receptor in Macroporous Sol-Gel Derived Materials", Abstract, CSC Meeting, May 2004, London, Ontario.	
✓	11.	SUI, X., et al., "Effect of Covalently Tethered Sugars on the Properties of Enzymes Entrapped in Sol-Gel Derived Silica", Abstract, CSC Meeting, May 2004, London, Ontario.	

Examiner Signature	/Unsu Jung/	Date Considered	08/23/2006
-----------------------	-------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08b(08-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 3 of 3

Complete if Known

Application Number	10/815,727
Filing Date	April 2, 2004
First Named Inventor	John D. Brennan
Art Unit	1641
Examiner Name	Unsu Jung
Attorney Docket Number	3244-127

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
UJ	12.	ZHANG, Z., et al., "The Biporous Structure of Monolithic Silica Columns Containing Entrapped Proteins", Abstract, Conference in Mexico, August 2002.	
UJ	13.	CHEN, Y., et al., "Syntheses of Sugar-Based Coupling Agents and Their Use in Preparing Protein-Friendly Silica Surfaces", Abstract, Conference in Mexico, August 2002.	
	14.	BESANGER, T., et al., "Toward the Entrapment of Stable Transmembrane Proteins: Characterization of Gramicidin Entrapped into Sol-Gel Derived Silicate Materials", Abstract, 85 th SOC Conference, Vancouver, BC, June 2002.	

Examiner Signature	/Unsu Jung/	Date Considered	08/23/2006
-----------------------	-------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.